



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1227; Directorate Identifier 2012-NM-016-AD]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Embraer S.A. Model ERJ 190 airplanes. This proposed AD was prompted by reports of cracks on the side stay of the main landing gear (MLG). This proposed AD would require repetitive measurements of the left-hand (LH) and right-hand (RH) MLG side stay support fitting to detect bushing migration, replacement of the bushing if necessary, and eventual replacement of the bushing; a detailed inspection for damage on the LH and RH MLG side stay support assembly, and related investigative and corrective actions if necessary. We are proposing this AD to prevent excessive bearing friction, which might compromise the MLG free fall extension, and cause fatigue cracking on the MLG side stay and on its support assembly, resulting in reduced structural integrity of the MLG.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – BRASIL; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email distrib@embraer.com.br; Internet <http://www.flyembraer.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through

Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Cindy Ashforth, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 227-2768; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-1227; Directorate Identifier 2012-NM-016-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directive 2012-01-01, effective January 28, 2012 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

This [ANAC] AD results from reports of cracks on the Main Landing Gear (MLG) Side Stay. Further investigation has revealed that the cracks were caused by excessive friction on the MLG Side Stay Support Fitting due to its outer bushing migration. This [ANAC] AD is being issued to prevent such excessive bearing friction which may compromise the MLG free fall extension and; cause fatigue cracks on the MLG Side Stay and on the MLG Side Stay Support Assembly resulting in reduced structural integrity of the MLG.

* * * * *

The required actions include repetitive measurements of the LH and RH MLG side stay support fitting to detect bushing migration, replacement the bushing if necessary, and eventual replacement of the bushing; a detailed inspection for damage on the LH and RH MLG side stay support assembly, and related investigative and corrective actions if necessary. The related investigative actions include a general visual inspection and an eddy current inspection for any cracking on the upper and lower side stays of the affected side stay support assembly. The corrective actions include replacing or repairing the MLG side stay or MLG side stay assembly, and removing corrosion. You may obtain further information by examining the MCAI in the AD docket.

Relevant Service Information

Embraer S.A. has issued the following service information:

- EMBRAER Service Bulletin 190-32-0043, Revision 02, dated August 23, 2011.
- EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011.
- EMBRAER Service Bulletin 190LIN-32-0017, dated June 10, 2011.
- EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011.

FAA's Determination and Requirements of This Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

Costs of Compliance

Based on the service information, we estimate that this proposed AD would affect about 97 products of U.S. registry. We also estimate that it would take about 44 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$362,780, or \$3,740 per product.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

“Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new AD:

Embraer S.A.: Docket No. FAA-2012-1227; Directorate Identifier 2012-NM-016-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; certificated in any category; as identified in the service information specified in paragraphs (c)(1) and (c)(2) of this AD.

(1) EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011.

(2) EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011.

(d) Subject

Air Transport Association (ATA) of America Code 32, Landing gear.

(e) Reason

This AD was prompted by reports of cracks on the side stay of the main landing gear (MLG). We are issuing this AD to prevent excessive bearing friction, which might compromise the MLG free fall extension, and cause fatigue cracking on the MLG side stay and on its support assembly, resulting in reduced structural integrity of the MLG.

(f) Compliance

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

(g) Measurement for Bushing Migration of the MLG Side Stay Support Fitting

Within 100 flight cycles after the effective date of this AD: Measure the left-hand (LH) and right-hand (RH) MLG side stay support fitting to detect bushing migration, in accordance with Part I of the Accomplishment Instructions of EMBRAER Service

Bulletin 190-57-0036, Revision 02, dated August 12, 2011 (for Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes); or EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011 (Model ERJ 190-100 ECJ airplanes).

(1) If the distance of bushing migration is less than 5 millimeters (mm), repeat the measurement required by paragraph (g) of this AD thereafter at intervals not to exceed 100 flight cycles until the actions required by paragraph (h) of this AD are accomplished.

(2) If the distance of bushing migration is equal to or more than 5 mm, before further flight, do the actions required by paragraph (h) of this AD.

(h) Replacement of the MLG Side Stay Support Fitting Bushing

Within 1,200 flight cycles after the effective date of this AD, except as specified by the compliance time in paragraph (g)(2) of this AD: Replace the LH and RH MLG side stay support fitting bushing, in accordance with Part II and Part III, respectively, of the Accomplishment Instructions of EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011 (Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes); or EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011 (Model ERJ 190-100 ECJ airplanes). Replacing the bushings terminates the repetitive measurements required by paragraph (g)(1) of this AD.

(i) MLG Side Stay and MLG Side Stay Support Assembly Inspection and Repair

At the applicable time specified in paragraph (i)(1), (i)(2), or (i)(3) of this AD: Perform a detailed inspection for damage on the LH and RH MLG side stay support

assembly, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-32-0043, Revision 02, dated August 23, 2011 (Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes); or EMBRAER Service Bulletin 190LIN-32-0017, dated June 10, 2011 (Model ERJ 190-100 ECJ airplanes). Do all applicable related investigative and corrective actions before further flight.

(1) For airplanes on which the actions specified in Part II and Part III of EMBRAER Service Bulletin 190-57-0036, or EMBRAER Service Bulletin 190LIN-57-0016, have been done, as applicable, as of the effective date of this AD: Within 100 flight cycles after the effective date of this AD.

(2) For airplanes on which the actions specified in EMBRAER Service Bulletin 190-57-0036, or EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011, as applicable, have not been done as of the effective date of this AD; except for airplanes identified in paragraph (i)(3) of this AD: Within 1,200 flight cycles after the effective date of this AD.

(3) For airplanes on which the actions specified in EMBRAER Service Bulletin 190-32-0043, dated March 1, 2011, have been done as the effective date of this AD, and a repair of the MLG side stay support assembly was done if damage was found: Within 600 flight cycles after the effective date of this AD.

(j) Credit for Previous Actions

(1) This paragraph provides credit for the actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using EMBRAER Service Bulletin 190-57-0036, dated September 20, 2010; or EMBRAER Service Bulletin 190-57-0036, Revision 01, dated February 28, 2011; which are not incorporated by reference in this AD.

(2) This paragraph provides credit for the actions required by paragraph (i) of this AD, if those actions were performed before the effective date of this AD EMBRAER Service Bulletin 190-32-0043, Revision 01, dated April 29, 2011, which is not incorporated by reference in this AD.

(k) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Cindy Ashforth, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 227-2768; fax (425) 227-1149. Information may be emailed to:

9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify

your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(l) Special Flight Permits

Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the airplane can be modified (if the operator elects to do so), provided that it is not a revenue flight and it meets weight limitations requirements specified by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA.

(m) Related Information

(1) Refer to MCAI Brazilian Airworthiness Directive 2012-01-01, effective January 28, 2012, and the service information specified in paragraphs (m)(1)(i) through (m)(1)(iv) of this AD, for related information.

(i) EMBRAER Service Bulletin 190-32-0043, Revision 02, dated August 23, 2011.

(ii) EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011.

(iii) EMBRAER Service Bulletin 190LIN-32-0017, dated June 10, 2011.

(iv) EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011.

(2) For service information identified in this AD, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – BRASIL; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email distrib@embraer.com.br; Internet <http://www.flyembraer.com>.

You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on December 6, 2012.

Kalene C. Yanamura,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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